

## **Application Note #120**

### **Problems on and around the Telephone Network that may affect your DAA and Modem Module operations.**

Modem modules and DAA interface the computer world to the telephone world. In an ideal world everything always works per specifications and there are never failures. However, in the real world there are many things that can cause temporary and/or permanent failure or operating problems. They are:

1. Electro Magnetic/Radio Frequency Noise (EMI/RFI)
2. Cross Talk
3. Lightning and Surge Problems
4. Phantom Ringing

Some of these from time to time, and in some installations, will inhibit normal operation and may be hard to avoid. The effect of these parasitic conditions becomes more obvious as the number of installations increase. Attached is an article describing these problems. The article comes from The Billboard, published by William H. Von Alver of the FCC, in the June 30, 1994 edition. This reprint will give the design engineer some background on these issues.

**The bottom line is: In your design please use the recommended protection, as described in our data sheets.**